

FACT SHEET

as required by LAC 33:IX.3111, for draft **Louisiana Pollutant Discharge Elimination System Permit No. LA0040274** to discharge to waters of the **State of Louisiana** as per LAC 33:IX.2311.

The **permitting authority** for the Louisiana Pollutant Discharge Elimination System (LPDES) is:

Louisiana Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

I. THE APPLICANT IS: Terrebonne Parish Consolidated Government
South Wastewater Treatment Plant
P. O. Box 2768
Houma, LA 70361

II. PREPARED BY: Paula M. Roberts
DATE PREPARED: March 8, 2006

III. PERMIT ACTION: reissue LPDES permit LA0040274
LPDES application received: October 3, 2005

IV. FACILITY INFORMATION:

A. The application is for the discharge of treated sanitary wastewater from an existing publicly owned treatment works.

B. The application does indicate the receipt of industrial wastewater. The industrial dischargers include:

<u>Name of Discharger</u>	<u>Flow</u>
Terrebonne Parish Government - Ashland Landfill	243,000 GPD
Chabret Medical Center	14,240 GPD
Halliburton Energy Services	1-2 gallons/minute
Weatherford Gemoco	2400 GPD
BJ Services Company	2030 GPD
Dimensional Oilfield Svcs., Inc.	3-5 GPD

C. The facility is located at 537 Ashland Landfill Road (off LA Hwy. 57), Ashland; Terrebonne Parish, Louisiana.

D. The treatment process consists of collection of wastewater via a separate sewer system and pumped into the treatment facility's influent structure, where it is screened then aerated. Aerated wastewater then flows to a 235 plus acre stabilization lagoon thence into chlorine contact chamber for chlorination/dechlorination.

E. Outfall 002

Discharge Location: Latitude 29° 31' 13" North
Longitude 90° 42' 23" West

Description: treated sanitary wastewater

Design Capacity: 8 MGD

Type of Flow Measurement which the facility is currently using: Combination Totalizing Meter/Continuous Recorder

V. RECEIVING WATERS:

The facility is located in segment 120501, but the discharge is from a force main into Houma Navigational Canal in segment 120509 of the Terrebonne Basin.

The critical low flow (7Q10) of Houma Navigational Canal is 1407 cfs. The harmonic mean flow is 4220 cfs. The hardness value is 218.67 mg/l and the fifteenth percentile value for TSS is 16.88 mg/l.

These values were from a memorandum dated November 7, 2005 from Baker (LDEQ) to Roberts (LDEQ).

The designated uses and degree of support for Segment 120509 of the Terrebonne Basin are as indicated in the table below^{1/}:

Overall Degree of Support for Segment 120509	Degree of Support of Each Use							
	Primary Contact Recreation	Secondary Contact Recreation	Propagation of Fish & Wildlife	Outstanding Natural Resource Water	Drinking Water Supply	Limited Aquatic Life and Wildlife Use	Oyster Propagation	Agriculture
Full	Full	Full	Full	N/A	Full	N/A	N/A	N/A

^{1/}The designated uses and degree of support for Segment 120509 of the Terrebonne Basin are as indicated in LAC 33:IX.1123.C.3, Table (3) and the 2002 Water Quality Management Plan, Volume 5, Part B, Water Quality Inventory respectively.

Subsegment 120509, Houma Navigational Canal –Houma to Bayou Pelton, is listed on LDEQs Final 2004 305(b)/303(d) Integrated Report as fully supporting its designated uses for this waterbody. To date no TMDLs have been completed for the Terrebonne Basin. A reopener clause will be established in the permit to allow for future requirements should it be deemed necessary.

VI. ENDANGERED SPECIES:

The receiving waterbody, Subsegment 120509 of the Terrebonne Basin is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U. S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated October 21, 2005 from Watson (FWS) to Gautreaux (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. It was determined that the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat.

VII. HISTORIC SITES:

The discharge is from an existing facility location, which does not include an expansion beyond the existing perimeter. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

VIII. PUBLIC NOTICE:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit to the LDEQ contact person, listed below, and may request a public hearing to clarify issues involved in the permit decision. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation
 Office of Environmental Services Public Notice Mailing List

For additional information, contact:

Ms. Paula M. Roberts
 Permits Division
 Department of Environmental Quality
 Office of Environmental Services
 P. O. Box 4313
 Baton Rouge, Louisiana 70821-4313

IX. PROPOSED PERMIT LIMITS:

Final Effluent Limits:

OUTFALL 002

Final limits shall become effective on the effective date of the permit and expire on the expiration date of the permit.

Effluent Characteristic	Monthly Avg. (lbs./day)	Monthly Avg.	Weekly Avg.	Basis
BOD ₅	2002	30 mg/l	45 mg/l	Based upon the Limnotech WLA (LTI.85.12) for the Terrebonne Parish Consolidated Government, City of Houma - South Plant which recommends secondary limitations. Secondary limitations in accordance with LAC 33:IX.711.D.2. and the type of treatment technology utilized at this facility.
TSS	6005	90 mg/l	135 mg/l	Based upon the Limnotech WLA (LTI.85.12) for the Terrebonne Parish Consolidated Government, City of Houma - South Plant which recommends secondary limitations. Secondary limitations in accordance with LAC 33:IX.711.D.2. and the type of treatment technology utilized at this facility.

Other Effluent Limitations

1) Fecal Coliform

The discharge from this facility is into a water body which has a designated use of Primary Contact Recreation. According to LAC 33:IX.1113.C.5.b.iv, the fecal coliform standards for this water body are 200/100 ml and 400/100 ml. Therefore, the limits of 200/100 ml (Monthly Average) and 400/100 ml (Weekly Average) are proposed as Fecal Coliform limits in the permit. These limits are being proposed through Best Professional Judgment in order to ensure that the water body standards are not exceeded, and due to the fact that existing facilities have demonstrated an ability to comply with these limitations using present available technology.

2) pH

According to LAC 33:IX.3705.A.1., POTW's must treat to at least secondary levels. Therefore, in accordance with LAC 33:IX.5905.C., the pH shall not be less than 6.0 standard units nor greater than 9.0 standard units at any time.

3) Solids and Foam

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

4) Total Residual Chlorine

If chlorination is used to achieve the limitations on Fecal Coliform Bacteria, the effluent shall contain NO MEASURABLE Total Residual Chlorine (TRC) after disinfection and prior to disposal. Given the current constraints pertaining to chlorine analytical methods, NO MEASURABLE will be defined as less than 0.1 mg/l of chlorine. The TRC shall be monitored daily by grab sample.

Priority Pollutants

Suspected causes of concern remaining after the elimination process are addressed in a manner consistent with the Department's permitting guidance for implementing Louisiana's surface water quality standards:

The analytical data submitted with the renewal application by the permittee dated October 3, 2005, consisted of the Toxic Substances sampled 5/26/05 and additional sampling supplied by Curtis Environmental Services sampled 11/30/04. This data included this/or these pollutant(s) which were reviewed and resulted with these findings:

1) the 5/26/05 sample for Chloroform was tested below the required MQL of 10 ug/l and reported a value of 12 ug/l; 2) the 11/30/04 sample for Chloroform was tested below the required MQL of 10 ug/l and reported a value of <5 ug/l.

A screen was performed for this pollutant as well as the other priority pollutants. The results and an explanation of the screening for Water Quality Based Limits are located below.

Numeric Toxic Limits: LDEQ has reviewed and evaluated the effluent analyses submitted by the permittee with the application on **October 3, 2005**, and additional data sampled on **November 30, 2004** and examined the following pollutants that are regulated by LAC 33:IX.1113.C.6. in accordance with the implementation procedures outlined under the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, October 30, 1995. Please see Appendix B-1, Water Quality Screen Spreadsheet.

Pollutant	Ce ¹	Ce x 2.13 ²	Water Quality Based Limit ³	Drinking Water Source	Permit Limit ?
Chloroform	12	23.43	4313	yes	No

- 1/ Metals concentration results were presented as total metals in lab analysis submitted by the permittee. All pollutants calculated in ug/l. (**Value reported on lab data sampled on 5/26/05 was input here**).
- 2/ For the reported effluent concentrations (Ce) it is estimated that 95% of the concentrations of chemicals taken over time will be 2.13 times the Ce or less.
- 3/ The water quality based limit is the maximum allowable instream concentration for that pollutant to be in compliance with water quality standards. Louisiana Water Quality Criteria for metals are hardness dependent, and expressed as dissolved metals. The water quality based limit is calculated with a conversion for metals limits expressed as total metals.

The following steps were used in evaluating the potential toxicity of the analyzed pollutants (see Appendix B-1):

- i. An evaluation of the applicability of the effluent data.

Results of the PPS were entered and compared to EPA's Minimum Quantification Levels (MQL's) to determine the potential presence of the respective toxic pollutant. Those pollutants with reported laboratory Method Detection Levels (MDL's) which exceed their respective EPA MQL's are determined to be reasonably present in the effluent and an evaluation of their potential toxicity is determined. Those pollutants with MDLs less than the MQL are determined to be not potentially present in the effluent and eliminated from further evaluation.

- ii. Calculation of permit limits based on applicable water quality standards.

Applicable water quality criteria are listed in the Appendix B-1 in Columns 12-14. These values were used to calculate the Waste Load Allocations (WLA's) for each of the toxic pollutants. The WLA is the maximum allowable concentration of a pollutant necessary to meet the respective water quality criteria. The WLAs are calculated as described in the State's Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, dated October 30, 1995, as follows (**Chloroform** is used as the example pollutant for the following calculations):

Complete Mix Balance Model for Waste Load Allocation

- Qe = plant effluent, MGD = 8
 Qr = critical flow of receiving stream, 1407, in MGD, 909.34, harmonic mean flow, 4220, in MGD, 2727.39
 Fs = MZ, ZID flow fraction, LAC 33:IX.1115.D.7 and 8 (MZ = 0.33, and ZID = 0.03)
 Cr = numerical criteria value from LAC 33:IX.1113, Table 1
 Cu = ambient instream concentration for pollutant. In the absence of accurate supporting data, assume Cu = 0

WLA = concentration for pollutant at end-of-pipe based on aquatic life and human health numerical criteria (site specific dilution type)
 LTA = long term average, units same as WLA
 WQBL = effluent water quality based limit.

$$\text{Dilution factor} = \frac{Q_e}{(Q_r F_s + Q_e)}$$

$$\begin{aligned} \text{Dilution factor (acute)} &= \frac{8}{(2727.39)(0.03) + 8} \\ &= 0.089 \end{aligned}$$

$$\begin{aligned} \text{Dilution factor (chronic)} &= \frac{8}{(2727.39)(0.33) + 8} \\ &= 0.0088 \end{aligned}$$

$$\begin{aligned} \text{Dilution factor (human health)} &= \frac{8}{(2727.39)(1) + 8} \\ &= 0.00292 \end{aligned}$$

$$\text{WLA} = (\text{Cr}/\text{Dilution factor}) - (\text{Fs}Q_r\text{Cu}/Q_e)$$

iii. Conversion of dissolved metals criteria for aquatic life to total metals.

Metals criteria for aquatic life protection are based on dissolved metals concentrations and hardness values averaged from data compilations contained in the Louisiana Water Quality Data Summary. A dissolved to total metal conversion will be implemented. Hardness and TSS are a function of the conversion. This involves determining a linear partition coefficient for the metal of concern and using this to determine the fraction of metal dissolved, so that the dissolved metal ambient criteria may be translated to a total effluent limit. The average hardness value used for the analysis is 218.67 mg/l CaCO₃ (USGS data). The 15th percentile TSS value is 16.88 mg/l. The formula for converting dissolved metals to total metals for streams and lakes are provided below. (NOTE: Chloroform is not a metal, therefore, this equation is not used in the calculations. See WLA at the bottom of the next page.)

K_p = Linear partition coefficient
 K_{p0} = found in Table A below
 α = found in Table A below
 TSS = total suspended solids concentration found in receiving stream or approximation thereof (nearest most representative site), lowest 15th percentile, units in mg/l
 C_D/C_T = Fraction of metal dissolved
 C_r = Dissolved criteria value for metal in water quality standards

$$K_p = K_{p0} \times \text{TSS}^\alpha$$

$$K_p = (1.04 \times 10^6) \times 16^{(-0.74)}$$

$$\text{then, } \frac{C_D}{C_T} = \frac{1}{1 + (K_p)(\text{TSS})(10^{-6})}$$

$$\frac{C_D}{C_T} = \frac{1}{1 + (133654.80)(16)(10^{-6})}$$

$$= 3.13$$

therefore,

$$\text{Total Metal} = \frac{\text{Cr}}{(C_D/C_T)}$$

TABLE A

LINEAR PARTITION COEFFICIENTS
FOR PRIORITY METALS IN STREAMS AND LAKES

(Delos *et. al*, 1984) (*1)

METAL	STREAMS		LAKES	
	K_{po}	α	K_{po}	α
Arsenic	0.48×10^6	-0.73	0.48×10^6	-0.73
Cadmium	4.00×10^6	-1.13	3.52×10^6	-0.92
Chromium III (*2)	3.36×10^6	-0.93	2.17×10^6	-0.27
Copper	1.04×10^6	-0.74	2.85×10^6	-0.9
Lead	2.80×10^6	-0.8	2.04×10^6	-0.53
Mercury	2.90×10^6	-1.14	1.97×10^6	-1.17
Nickel	0.49×10^6	-0.57	2.21×10^6	-0.76
Zinc	1.25×10^6	-0.7	3.34×10^6	-0.68

(*1) Delos, C. G., W. L. Richardson, J. V. DePinto, R. B. Ambrose, P. W. Rogers, K. Rygwelski, J. P. St. John, W. J. Shaughnessey, T. A. Faha, W. N. Christie. Technical Guidance for performing Waste Load Allocations, Book II: Streams and Rivers. Chapter 3: Toxic Substances, for the U. S. Environmental Protection Agency. (EPA-440/4-84-022).

(*2) Linear partition coefficients shall not apply to the Chromium VI numerical criterion. The approved analytical method for Chromium VI measures only the dissolved form. Therefore, permit limits for Chromium VI shall be expressed in the dissolved form. See 40 CFR, 122.45(c)(3).

$$\text{WLA}_{a,c,h} = (\text{Cr}/\text{Dilution factor}) - (\text{FsQrCu}/\text{Qe})$$

$$\text{WLA}_{\text{acute}} = (2890/0.0089) - [(0.03)(2727.39)(0)/8] = 13840$$

$$\text{WLA}_{\text{chronic}} = (1445/0.00088) - [(0.33)(2727.39)(0)/8] = 56195.1$$

$$\text{WLA}_{\text{human health}} = (5.3/0.0029) - [(1)(2727.39)(0)/8] = 1812.21$$

iv. Calculation of Long Term Averages (LTA's) and Permit Limits.

Comparison of the reported effluent data (converted to the 95th percentile) to the calculated effluent limitations. Long term averages are listed in the Appendix B-1 in Columns 15-17. Long term averages are calculated for each WLA (based on aquatic and human health criteria). The LTA's are calculated as follows:

$$LTA_a = WLA_a \times 0.32$$

$$LTA_c = WLA_c \times 0.53$$

$$LTA_h = WLA_h$$

$$LTA_{acute} = 13840.02 \times 0.32 = 4428.81$$

$$LTA_{chronic} = 56195.10 \times 0.53 = 29783.399$$

$$LTA_{human\ health} = 1812.21$$

A comparison of each LTA is made and the lowest (most restrictive) is selected to calculate the effluent limitations. The most limiting LTA is listed in Appendix B-1, Column 18. Human health is more limiting in this case.

Calculation of permit limits if aquatic life LTA is more limiting:

$$\text{Daily Average} = \text{Min}(LTA_a, LTA_c) \times 1.31$$

$$\text{Daily Maximum} = \text{Min}(LTA_a, LTA_c) \times 3.11$$

If human health LTA is more limiting:

$$\text{Daily Average} = LTA_h$$

$$\text{Daily Maximum} = LTA_h \times 2.38$$

$$\text{Daily Average} = 1812.21 \text{ ug/l}$$

$$\text{Daily Maximum} = 1812.21 \times 2.38 = 4313.07 \text{ ug/l}$$

The resulting allowable effluent concentration is converted to a mass value using the following formula:

$$\begin{aligned} \text{lbs/day} &= (1.812 \text{ mg/l}) \times 8.34 \times 8 \text{ MGD} \\ &= 120.91 \end{aligned}$$

Comparison of the reported effluent data (converted to 95th percentile) is made to the calculated effluent limitations. Water Quality Based limits are listed in Appendix B-1, Columns 19-22. In accordance with the State of Louisiana's implementation procedures, the reported effluent concentration is compared to the calculated daily average concentration. If the effluent concentration is greater than the calculated daily average concentration, then a reasonable potential exists and an effluent limitation for the pollutant of concern is imposed in the permit. (Please refer to Appendix B-1 for the calculated daily average concentration listed in Column 19 and the effluent concentration listed in Column 3.)

The discharge is considered to pose a reasonable potential to cause a water quality excursion if the estimated 95th percentile of a pollutant in the effluent will result in an instream waste concentration that is above the applicable State water quality criterion. The 95th percentile of possible effluent concentrations are estimated as follows:

$$C_{95} = C_{mean} \cdot \exp(1.645 \cdot \sigma - 0.5 \cdot \sigma^2)$$

where: 1.645 = normal distribution factor at 95th percentile

$$\sigma^2 = \ln(CV^2 + 1)$$

if CV is assumed = 0.6,

$$\sigma^2 = .307$$

The ratio of the estimated 95th percentile value to the mean (C_{95}/C_{mean}) is calculated:

$$C_{95}/C_{\text{mean}} = 2.13$$

Based upon review of the permittee's effluent data, there are no pollutant(s) present or potentially present in the effluent discharge in such concentrations that would cause an exceedance of Louisiana's Water Quality Standards. A summary of the evaluation of the permittee's effluent analysis of the toxic pollutants is listed in Appendix B-1. As per LAC 33:IX.2709.F.1, all pollutants limited in permits shall have limitations, standards, or prohibitions expressed in terms of mass. Consequently, water quality-based limitations as seen in the permit are expressed in terms of mass.

Toxicity Characteristics

In accordance with EPA's Region 6 Post-Third Round Toxics Strategy, permits issued to treatment works treating domestic wastewater with a flow (design or expected) greater than or equal to 1 MGD shall require biomonitoring at some frequency for the life of the permit or where available data show reasonable potential to cause lethality, the permit shall require a whole effluent toxicity (WET) limit (*Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards*, September 27, 2001 VERSION 4).

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates the effects of synergism of the effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. LAC 33:IX.1121.B.3. provides for the use of biomonitoring to monitor the effluent for protection of State waters. The biomonitoring procedures stipulated as a condition of this permit are as follows:

The previous LPDES permit issued January 3, 2001, had Chronic Freshwater Biomonitoring Toxicity Testing as a requirement of the permit. Chronic toxicity tests shall generally be required of those discharges with potential toxicity using critical dilutions as determined by an applicable dilution model (See Appendix B-1). However, the Office of Environmental Services reserves the right to impose equivalent acute toxicity testing in addition to, or in lieu of, chronic toxicity testing for discharges that have a critical dilution of five percent (5%) or less. When data is available, a site specific acute to chronic ratio (ACR) may be calculated. An ACR of 10:1 can be used in the absence of site specific data (See paragraph: Dilution Series). As stated in the paragraph below, the critical dilution is defined as less than 5%; therefore, Acute Freshwater Biomonitoring Toxicity Testing is being imposed in this permit.

The permittee shall submit the results of any biomonitoring testings performed in accordance with the LPDES Permit No. LA0040274, Part II, Section F for the organisms indicated below.

TOXICITY TESTS

FREQUENCY

Acute static renewal 48-hour definitive toxicity
 using *Daphnia pulex* (Method 1002.0)

1/quarter

Acute static renewal 48-hour definitive toxicity
 using fathead minnow (*Pimephales promelas*) (Method 1000.0)

1/quarter

Dilution Series - The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional concentrations shall be 11%, 14%, 19%, 26%, and 34%. The low-flow effluent concentration (critical low-flow dilution) is defined as 26% effluent (the 10:1 Acute-to-Chronic ratio has been implemented because the critical dilution was less than 5%). The critical dilution is calculated on page 1 of Appendix B-1 of this fact sheet. Results of

all dilutions shall be documented in a full report according to the test method publication mentioned in Part II Section F under Whole Effluent Toxicity. This full report shall be submitted to the Office of Environmental Compliance as contained in the Reporting Paragraph located in Part II Section F of the permit.

The permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.2903. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Toxic Substances

The permittee is required to monitor for additional toxic substances due to the designated use of the receiving waterbody as a drinking water supply. The permittee shall analyze the final effluent for the presence of the following toxic substances in accordance with the monitoring and reporting requirements listed in Part II, Section D, Toxic Substances, page 7 of this permit.

1. Results must be submitted to the Office of Environmental Compliance within 20 days following the receipt of the analytical results. The first analysis shall be performed within six months following the effective date of the permit, and every six months thereafter.
2. Results must be submitted to the following address:

Department of Environmental Quality
Office of Environmental Compliance
Post Office Box 4312
Baton Rouge, Louisiana 70821-4312

Toxic Substances (CAS No.)

<u>VOLATILE ORGANIC CHEMICALS</u>	<u>Required MQL (ug/l)</u>	<u>EPA Test Method</u>
acrolein (107-02-8)	50	624
acrylonitrile (107-13-1)	50	624
benzene (71-43-2)	10	624
bromodichloromethane (dichlorobromomethane) (75-27-4)	10	624
bromoform (tribromomethane) (75-25-2)	10	624
carbon tetrachloride (56-23-5)	10	624
chlorobenzene (108-90-7)	10	624
chloroform (trichloromethane)	10	624
chloromethane (methyl chloride) (74-87-3)	50	624
1,1-dichloroethane (75-34-3)	10	624
1,2-dichloroethane (107-06-2)	10	624
1,1-dichloroethylene (75-35-4)	10	624
dichloromethane (methylene chloride) (75-09-2)	20	624
cis-1,3-dichloropropene	10	624
trans-1,3-dichloropropene	10	624
ethylbenzene (100-41-4)	10	624
para-dichlorobenzene*	---	---
1,1,2,2-tetrachloroethane (79-34-5)	10	624
tetrachloroethylene (127-18-4)	10	624

Toxic Substances (continued)

	<u>Required</u>	<u>EPA Test</u>
	<u>MOI. (ug/l)</u>	<u>Method</u>
<u>VOLATILE ORGANIC CHEMICALS</u>		
toluene (108-88-3)	10	624
1,1,1-trichloroethane (71-55-6)	10	624
1,1,2-trichloroethane (79-00-5)	10	624
trichloroethylene (79-01-6)	10	624
vinyl chloride (chloroethylene) (75-01-4)	10	624
<u>ACID EXTRACTABLE ORGANIC CHEMICALS</u>		
2-chlorophenol (95-57-8)	10	625
3-chlorophenol	10	625
4-chlorophenol	10	625
2,4-dichlorophenol (120-83-2)	10	625
2,3-dichlorophenol	10	625
2,5-dichlorophenol	10	625
2,6-dichlorophenol	10	625
3,4-dichlorophenol	10	625
2,4-dinitrophenol (51-28-5)	50	625
pentachlorophenol (87-86-5)	50	625
phenol (108-95-2)	10	625
2,4,6-trichlorophenol (88-06-2)	10	625
<u>BASE/NEUTRAL EXTRACTABLE ORGANIC CHEMICALS</u>		
anthracene (120-12-7)	10	625
benzidine (92-87-5)	50	625
bis(2-chloroethyl)ether (111-44-4)	10	625
bis(2-chloro-1-methylethyl)ether (39638-32-9)	10	625
bis(2-ethylhexyl)phthalate (117-81-7)	10	625
di-n-butyl phthalate (84-74-3)	10	625
1,3-dichlorobenzene (541-73-1)	10	625
1,2-dichlorobenzene (95-50-1)	10	625
1,4-dichlorobenzene (106-46-7)	10	625
3,3-dichlorobenzidine (91-94-1)	50	625
diethyl phthalate (84-66-2)	10	625
dimethyl phthalate (131-11-3)	10	625
2,4-dinitrotoluene (121-14-2)	10	625
1,2-diphenylhydrazine (122-66-7)	20	625
fluoranthene (206-44-0)	10	625
hexachlorobenzene (118-07-1)	10	625
hexachlorobutadiene (87-68-3)	10	625
hexachlorocyclopentadiene (77-47-4)	10	625
hexachloroethane (67-72-1)	20	625
isophorone (78-59-1)	10	625
nitrobenzene (98-95-3)	10	625
N-nitrosodimethylamine (62-75-9)	50	625
N-nitrosodiphenylamine (86-30-6)	20	625
<u>PESTICIDES & PCB"S</u>		
aldrin (309-00-2)	0.05	608
PCB"s (Total)	1.0	608
gamma-BHC (Lindane, Hexachlorocyclohexane) (58-89-9)	0.05	608
chlordane (57-74-9)	0.2	608

Toxic Substances (continued)

	<u>Required</u> <u>MQL (ug/l)</u>	<u>EPA Test</u> <u>Method</u>
<u>PESTICIDES & PCBs</u>		
4,4"DDD (TDE) (72-54-8)	0.1	608
4,4"DDE (72-55-9)	0.1	608
4,4"DDT (50-29-3)	0.1	608
dieldrin (60-57-1)	0.1	608
endosulfan I (alpha) (115-29-7)	0.1	608
endosulfan II (beta) (115-29-7)	0.1	608
endrin (72-20-8)	0.1	608
heptachlor (76-44-8)	0.05	608
methoxychlor*	---	---
2,3,7,8-tetrachlorodibenzo-p-dioxin (1764-01-6)	**	625
toxaphene (8001-35-2)	5.0	608
2,4-dichlorophenoxyacetic acid (2,4-D) (94-75-7)	10	509B
2-(2,4,5-trichlorophenoxy)propionic acid (2,4,5-TP, Silvex)	4	509B
<u>METALS</u>		
antimony (7440-36-0)	60	200.7
arsenic (7440-38-2)	10	206.2
barium*	---	---
beryllium (7440-41-7)	5	200.7
cadmium (7440-43-9)	1	213.2
chromium III (16065-83-1)	10	200.7
chromium VI (7440-47-3)	10	200.7
copper (7550-50-8)	10	220.2
lead (7439-92-1)	5	239.2
flouride*	---	---
mercury (7439-97-6)	0.2	245.1
nickel (7440-02-0)	40	200.7
nitrate (as N)*	---	---
selenium (7782-49-2)	5	270.2
silver (7440-22-4)	2	272.2
thallium (7440-28-0)	10	279.2
zinc (7440-66-6)	20	200.7
<u>MISCELLANEOUS</u>		
	<u>Required</u> <u>MQL (ug/l)</u>	<u>EPA Test</u> <u>Method</u>
cyanide	10	335.2
total phenols	5	420.1

* In addition to the effluent lab result for this pollutant, also report MQL and Test Method used.

** Method 625 is a nonquantitative screen that is used to ascertain a positive or negative result. With proper QA/QC techniques, a positive result can be expected at a level above 1 ppm. If this test yields a positive response, then method 613 would be appropriate to establish the quantitative value. Method 613 requires use of the dioxin standard that is dangerous and should not be used unnecessarily.

X. PREVIOUS PERMITS:

LPDES Permit No. LA0040274: Issued: January 3, 2001
Effective: February 1, 2001
Expired: January 31, 2006

Final Effluent Limits beginning the effective date of the permit and lasting through the expiration date of the permit. **Outfall 002** Design capacity - 8 MGD

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Monthly Avg.</u>	<u>Weekly Avg.</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	Report	Report	Continuous	Record
BOD ₅	30 mg/l	45 mg/l	5/week	12-hr. composite
TSS	90 mg/l	135 mg/l	5/week	12-hr. composite
Fecal Coliform Colonies	200	400	5/week	Grab
Total Residual Chlorine*	---	---	5/week	Grab
Toxic Substances	Report	Report	1/6 months	24-hr. composite
pH	6- 9 Standard Units		5/week	Grab
	<u>30-Day Avg. Min.</u>	<u>7-Day Avg. Min.</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Biomonitoring (Chronic)				
Ceriodaphnia dubia	Report	Report	1/6months	24-hr. comp.
Pimephales promelas	Report	Report	1/year	24-hr. comp.

*NO MEASURABLE Total Residual Chlorine is defined as less than 0.1 mg/l in any sample.

The permit contained pretreatment language.
The permit contained biomonitoring language.
The permit contained pollution prevention language.

XI. ENFORCEMENT AND SURVEILLANCE ACTIONS:

A) Inspections

A review of the files indicate the following inspections were performed during the period beginning **August 2003** and ending **August 2005** for this facility.

Date - June 28, 2005
Inspector - Tad Loupe, Bayou Lafourche Regional Office
Findings and/or Violations:

An inspection was performed to determine the facility's compliance with the LPDES permit.

1. The oxidation pond discharge was currently shut down to due to low water levels. No flow during this inspection.
2. The in-house laboratory including log books, bench sheets, and data was evaluated. DMRs for 05/2004-05/2005 were reviewed.
3. The facility is currently developing a removal plan to address the sludge/grease accumulation in the cell from sewage haulers. Also, monitoring the disposition of oil containers and garbage at the site from the sewage haulers.

4. DMR reported a pH of 11.3 during 05/2004. It was determined to be an error after a bench sheet review. pH was 7.6 on 5/31/04. The DMR was revised.
5. Collection system overflow was reported on 4/30/2004.

Date – May 20, 2004

Inspector – Stephen Lorio, Bayou Lafourche Regional Office

Findings and/or Violations:

Inspection conducted to determine compliance with LA0040274, as well as MM-C-03-0089.

1. Lab problems dealing with BOD₅ and TSS analysis have been addressed. No excursions noted since last inspection.
2. Some solid waste problems have been addressed. However, there is still a moderate/slightly excessive buildup of sludge in cell #1 from septic truck dumping, as well as a small area of oil saturated soil in the area.

B) Compliance and/or Administrative Orders

A review of the files indicates the following most recent enforcement actions administered against this facility:

EPA Issuance:

Docket # - CWA-06-2004-1817

Date Issued – November 18, 2003

Findings of Fact:

1. Pursuant to the authority of Sections 4059d) and (e) of the Act, 33 U.S.C. §1345, EPA promulgated federal standards for the use or disposal of sewage sludge specified at 40 C.F.R. Part 503. These federal standards specified in 40 C.F.R. Part 503 are directly enforceable, with an effective date of February 19, 1993, 58 Fed. Reg. 9387(1993). The requirements specified in 40 C.F.R. Part 503 consist of general requirements, pollutant limits, management practices, and operational standards for the final use or disposal of sewage sludge generated during the treatment of domestic sewage in a treatment works.
2. Pursuant to 40 C.F.R. §503.18(a), Class I sludge management facilities, POTWs with a design flow rate equal to or greater than one million gallons per day, and POTW that serve 10,000 people or more shall submit to EPA an annual sludge monitoring report that is due on February 19th of each year regarding the sludge operations during the previous calendar year, in accordance with 40 C.F.R. §503.17(a).
3. A review of the EPA official files and records established that the permittee did not submit annual sludge monitoring reports for the calendar years 2000 and 2001 which the permittee was required to submit to EPA by February 19, 2001 and 2002, thus, a violation of 40 C.F.R. §503.18(a).
4. By failing to submit to EPA annual sludge monitoring reports for the calendar years 2000, and 2001, the permittee violated 40 C.F.R. §503.18(a).

Order:

1. Within thirty (30) days of the effective date of the order, the permittee was ordered to take whatever corrective action necessary to eliminate and prevent recurrence of the violations cited in the order.
2. Within thirty (30) days of the effective date of the order, the permittee was ordered to submit a written report detailing the specific actions taken to correct the violations cited herein and explain why such actions were anticipated to be sufficient to prevent recurrence of those or similar violations.
3. Within thirty (30) days of the effective date of this Order, the permittee was ordered to submit a completed annual sludge monitoring reports for sludge operations during calendar years 2000 and 2001 pursuant to 40 C.F.R. §503.18(a).
4. In the event the permittee believed that the complete correction of the violations cited in the order were not possible within thirty(30) days of the effective date of the Order, the permittee was ordered to submit a comprehensive written plan for the elimination of the cited violations within the shortest possible time. The plan needed to include in detail specific corrective actions to be taken and why such actions are sufficient to correct the violations. The plan needed to include measures to prevent these or similar violations from recurring.

LDEQ Issuance:

Docket # - MM-C-03-0089

Issued - March 30, 2004

Findings of Fact:

1. Under the terms and conditions of LPDES permit LA0040274, the respondent was authorized to discharge treated sanitary wastewater from its facility to the Houma Navigational Canal, waters of the state. The respondent did not have a permit or other authority from the Department to dispose of solid waste at the site.
2. On or about December 14, 2000, an inspection conducted by the Department at the respondent's facility revealed the following violations:
 - a) an instantaneous flow volume measurement taken at the time of the inspection revealed an 11.7 % margin of error in the primary flow-measuring device. LPDES permit LA0040274 requires less than a 10% margin of error.
 - b) the respondent failed to follow proper sample preservation methods. Specifically, there was no thermometer inside the automatic composite sampling refrigerator to verify that the sample was being kept at less than 4 degrees Celsius.
3. On or about June 5, 2003, a representative of the Department performed an inspection of the facility and noted the following violations:
 - a) The respondent caused and/or allowed the deposition of regulated solid waste without a permit and/or authority from the Department. The solid waste included plastic drink bottles and oil containers that had stained the surface soil with residual oil from the containers.
 - b) The respondent was not properly operating and maintaining the treatment plant. Specifically, the respondent allowed

commercial vacuum truck haulers to dispose of their septage in a designated location at the wastewater treatment facility. This area had accumulated an excessive amount of grease and sludge. The bar screen at the headworks of the plant was not in operation during the inspection.

- c) The respondent's in-house laboratory was not following the proper procedures and quality control measures as required by the 18th Edition of Standard Methods for BOD₅ and TSS analyses. Laboratory bench sheets reviewed for March and May 2003, revealed the following violations:

- 1) For the TSS method, the lab was not repeating the cycle of drying, cooling and weighing to obtain a constant weight once to calculate the sample result.
- 2) For the BOD₅ method, the lab had consistent inadequate quality control results or had failed to perform the required procedures. Specifically, the lab failed to measure the sample pH and adjust as needed. The seed correction factor was not determined by a series of dilutions; only one (1) dilution was analyzed for each batch. In March, three(3) dilution blanks were greater than 0.2 mg/l. In both March and May, the lab had eight (8) GGA Standard failures. Twice in March and seven (7) times in May, the seed control factors were not within the required 0.6 to 1.0 mg/l five (5) times in May, the seed control dilution did not have 40-70 percent dilution depletion.

4. File reviews conducted by the Department on or about September 22, 2003, and March 10, 2004, revealed the following permit excursions, as reported by the respondent on the DMRs.

Date	Parameter	Permit Limit	Sample Value
9/98	Fecal Coliform		
	Daily Max	400 col/100ml	700 col/100 ml
6/99	BOD ₅ Daily Max	45 mg/l	60.6 mg/l
6/00	Total Residual Cl	0.099 mg/l	0.41 mg/l
10/02	Total Residual Cl	0.099 mg/l	0.17 mg/l
05/03	Total Residual Cl	0.099 mg/l	0.13 mg/l

5. A file review conducted by the Department on or about September 22, 2003, revealed that the Discharge Monitoring Report for March 2001 was not postmarked until May 8, 2001. LPDES permit LA0040274 requires DMRs to be received by the Department no later than the 28th of the month following the end of the monitoring period.
6. Further file review by the Department on or about September 22, 2003, revealed that an overflow had occurred as reported by the respondent. Specifically, untreated wastewater discharged into a storm drain at 151 Plant Road.

Order:

1. To immediately cease depositing or allowing the deposit of regulated waste of any kind at this site or any other site not permitted to receive such waste.
2. To complete closure of the site within thirty days after receipt of the compliance order, by removal of all deposited regulated solid waste, including by not limited to the oil stained surface soil to a permitted solid waste disposal facility.
3. To immediately take any and all steps necessary to meet and maintain compliance with the permit limitations and conditions contained in LPDES permit LA0040274, including, but not limited to , following proper laboratory procedures for all required analyses.
4. To immediately taken any and all steps necessary to meet and maintain compliance with the Solid Waste and Water Quality Regulations.
5. To submit to the Enforcement Division, within thirty days after receipt of the compliance order, a written report that includes a detailed description of the circumstances surrounding the cited violations and actions taken or to be taken to achieve compliance with the Order Portion of the compliance order.

C) DMR Review

A review of the discharge monitoring reports for the period beginning August 2003 through August 2005 has revealed the following violations:

<u>Effluent Characteristic</u>	<u>Number of Violations</u>
BOD ₅ Mon. Avg.- (concentration)	0
BOD ₅ Weekly Avg.- (concentration)	0
BOD ₅ Avg. - (loadings)	0
TSS Mon. Avg. - (concentration)	0
TSS Weekly Avg. - (concentration)	0
TSS Avg. - (loadings)	0
Fecal Coliform Average	0
Fecal Coliform Maximum	0
TRC	0

A detailed report is attached.

XII.

ADDITIONAL INFORMATION:

A Wasteload Allocation was prepared for the Terrebonne Parish Consolidated Government, City of Houma - South Treatment Plant by Limnotech (LTI.85.12). According to this report, the facility would discharge into Bayou Chauvin with a flow of 7.0 MGD. The Limnotech model recommended final limits of 10/10/3/5 (BOD₅/TSS/NH₃-N) with a target dissolved oxygen concentration of 4.0 mg/l for Bayou Chauvin, which is classified as an estuary. This wasteload allocation was not accepted by EPA. However, secondary limits were approved as a result of a modeling analysis done by EPA, contingent upon diversion of the effluent into Houma Navigational Canal.

Final effluent loadings (i.e. lbs/day) have been established based upon the permit limit concentrations and the **design capacity flow** of 8 MGD. Effluent loadings are calculated as shown in the following example:

$$\text{BOD} = 8.34 \times 8 \text{ MGD} \times 30 \text{ mg/l} = 2002 \text{ lbs/day}$$

At present, the **Monitoring Requirements, Sample Types, and Frequency of Sampling** as shown in the permit are standard for facilities with flows between (5.0) MGD and (10.0) MGD.

<u>Effluent Characteristics</u>	<u>Monitoring Requirements</u>	
	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	Continuous	Record
BOD ₅	5/week	12-hr. Composite
Total Suspended Solids	5/week	12-hr. Composite
Fecal Coliform Bacteria	5/week	Grab
Total Residual Chlorine	5/week	Grab
Biomonitoring		
<u>Daphnia pulex</u> (Method 1002.0)	1/quarter	24-hr. Composite
<u>Pimephales promelas</u> (Method 1000.0)	1/quarter	24-hr. Composite
Toxic Substances	1/6 months	24-hr. Composite
pH	5/week	Grab

The Department of Environmental Quality will be conducting TMDLs for the Terrebonne Basin scheduled for completion March 31, 2007. The Department of Environmental Quality reserves the right to modify or revoke and reissue to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon additional water quality studies and/or TMDLs. These studies may indicate the need for advanced wastewater treatment. Studies of similar dischargers and receiving water bodies have resulted in monthly average effluent limitations of 5 mg/l CBOD₅, and 2 mg/l NH₃-N. Therefore, prior to upgrading or expanding this facility, the permittee should contact the Department to determine the status of the work being done to establish future effluent limitations and additional permit conditions.

PRETREATMENT REQUIREMENTS

Based upon consultation with the LDEQ pretreatment personnel, option 1 is recommended. For the indirect dischargers listed in this fact sheet and/or those that are mentioned in the pretreatment summary, there are no pretreatment categorical standards or the discharge is sanitary only. The wastewater from these facilities have a minimal potential for pass through or interference with the operation of this POTW. Option 1 language is established for municipalities that do not have either an approved or required Pretreatment program.

STORMWATER PROVISIONS

Stormwater provisions have been placed in the permit in accordance with LAC 33:IX.2511. The definition for Stormwater Discharge Associated with Industrial Activity includes treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, with a design flow of 1.0 MGD or more.

Pollution Prevention Requirements:

The permittee shall institute or continue programs directed towards pollution prevention. The permittee shall institute or continue programs to improve the operating efficiency and extend the useful life of the facility. The permittee will complete an annual Environmental Audit Report **each year** for the life of this permit according to the schedule below. The permittee will accomplish this requirement by completing an Environmental Audit Form which has been attached to the permit. Please make additional copies to be utilized for each year of this permit.

The audit evaluation period is as follows:

Audit Period Begins	Audit Period Ends	Audit Report Completion Date
Effective Date of Permit	12 Months from Audit Period Beginning Date	3 Months from Audit Period Ending Date

Environmental Impact Questionnaire:

Applicant Comments/Responses

1. Have the potential and real adverse effects of the proposed facility been avoided to the maximum extent possible?
2. Does a cost benefit analysis of the environmental impact costs balanced against the social and economic benefits of the proposed facility demonstrate that the latter outweighs the former ?
3. Are there alternative projects which would offer more protection to the environment than the proposed facility without unduly curtailing nonenvironmental benefits ?
4. Are there alternative sites which would offer more protection to the environment than the proposed facility site without unduly curtailing nonenvironmental benefits ?
5. Are there mitigating measures which would offer more protection to the environment than the facility as proposed without unduly curtailing nonenvironmental benefits ?

The permittee's responses are not applicable at this time. This is an existing major facility with no recent modifications to the site.

XIII. TENTATIVE DETERMINATION:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in this Fact Sheet.

XIV. REFERENCES:

Louisiana Water Quality Management Plan, Vol. 8, Appendix A "Areawide Effluent Limitations Policy", Louisiana Department of Environmental Quality, 2005.

Louisiana Water Quality Management Plan, Vol. 5, Part B, "Water Quality Inventory", Louisiana Department of Environmental Quality, 2002 and 2004.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Chapter 11 - "Louisiana Surface Water Quality Standards", Louisiana Department of Environmental Quality, 2005.

LA 2004 Integrated Report with FINAL EPA Additions, August 17, 2005.

REFERENCES continued:

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Chapter 23 - "The LPDES Program", Louisiana Department of Environmental Quality, 2005.

Low-Flow Characteristics of Louisiana Streams, Water Resources Technical Report No. 22, United States Department of the Interior, Geological Survey, 1980.

Index to Surface Water Data in Louisiana, Water Resources Basic Records Report No. 17, United States Department of the Interior, Geological Survey, 1989.

LPDES Permit Application to Discharge Wastewater, Terrebonne Parish Consolidated Government, South Wastewater Treatment Plant, October 3, 2005.

Additional Information, Laboratory Data for Terrebonne Parish Consolidated Government, South Wastewater Treatment Plant, Curtis Environmental Services, Inc., December 28, 2005.